



STATE OF WASHINGTON  
DEPARTMENT OF ECOLOGY

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April 30, 1982

Mr. (b) (6)  
Environmental Resource Manager  
Scott Paper Company  
P.O. Box 925  
Everett, Washington 98206

Dear Mr. (b) (6) :

Effluent pH and toxicity problems were reviewed by Sam Archer and you at a meeting with Dick Burkhalter and me on April 15, 1982. The zinc in scrap rubber tires, burned as a hog fuel supplement in power boilers, is apparently the source of toxicity indicated by bioassay of boiler ash and effluent contaminated by the ash.

Ash collected by the boiler baghouse and cyclone is slurried with water and settled in a small clarifier. The clarifier sludge is sold to Pacific Top Soils, Inc. where it is mixed with other ingredients to produce a commercial soil product. The boiler ash sludge constitutes about 1 percent of the topsoil mixture. Because this sludge is sold as raw material for a commercial product, it is not a mill waste material.

Cinders and ash removed from boiler grates are quenched with water in a pit at the base of the boilers. Water from the quenching operation is pumped to the primary clarifiers, merging with other waste water that will be discharged through outfalls No. 001 and No. 003. For the past several years, all cinder sludge from the boiler pit has been used as one of the materials deposited to complete a large fill at the mill site.

In accordance with the recently issued Dangerous Waste Regulation, chapter 173-303 WAC, Scott conducted a bioassay on the boiler cinders. This bioassay indicated the cinders could be designated as a dangerous waste. However, as discussed at our meeting, the bioassay sample was collected before quenching and then ground to a fine powder. This sample did not represent the sludge waste material and we agreed that another bioassay should be conducted on a more representative sample.

On April 22, 1982, I observed Sam Archer collect a sample from a pile of the wet cinder sludge. He obtained a gross sample with a shovel from a number of equally spaced points on the periphery. A small sample was then taken from the gross sample in general accordance with ASTM D346. Sam Archer subsequently informed me that bioassay of this sample, at a concentration of 1000 mg/l, resulted in 50 percent mortality of the test fish at

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the end of 96 hours. This result indicates a borderline dangerous waste designation. The possible value of cinder sludge in a topsoil mixture, in addition to the finer ash sludge, may be investigated.

You informed us of plans to reduce zinc in the effluent by improving operation of the ash slurry clarifier. These improvements are expected to eliminate sludge spillage, reduce the quantity of clarifier effluent, and improve pH control of clarifier effluent. The major portion of this project is expected to be completed by the end of May 1982. You agreed to provide a flow diagram of the improved system, including expected flow rates.

Your evaluation of toxicity in the 008 effluent indicates an increase in pH during bioassay shifts the ammonium ion/ammonia equilibrium to a toxic level for ammonia. You found this can be prevented by aerating at a low pH to reduce alkalinity before starting bioassay. As this problem was not evident in the bioassay our lab ran on samples split with you last fall, the change in alkalinity and pH may be accelerated by your aeration system. We would be interested in results with your new aquaria and aeration facility that you plan for installation within the next several weeks. We also want information on control of ammonia nitrogen in the biotreatment facility, including target nitrogen in the effluent and daily concentrations in the influent and effluent during April 1982.

You told us that operational management of the Everett mill had recently been reorganized and that you have reviewed pH control problems with the new management. You stated that nearly \$500,000 has been spent on the pH control system for outfalls 001 and 002, but the neutralization capacity of the system is limited. It was your opinion that the new management acknowledges the systems limitations and accepts responsibility to control spills and prevent operational or maintenance situations, such as draining tanks, from causing pH violations.

An inspection of the outfall 001 pipeline is scheduled during low tides in May 1982. This inspection will be primarily to examine the submerged section of the wood stave line that exhibited deterioration in the inspection last year. We expect a report on results of this inspection when it has been completed. The information requested on ammonia control in the biotreatment plant and the schematic drawing of the boiler ash clarifier improvements should be submitted by the end of May 1982.

Sincerely,

*Bruce Johnson*

Bruce Johnson  
Industrial Section